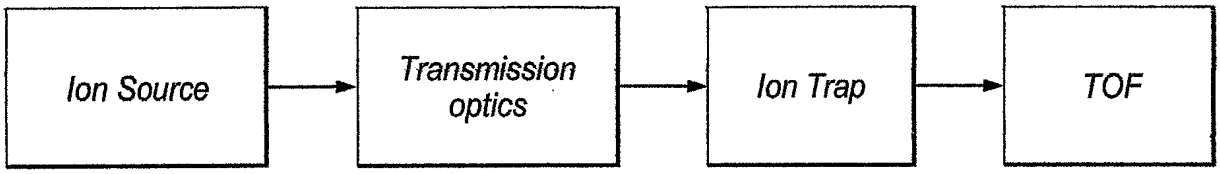


Fig.1

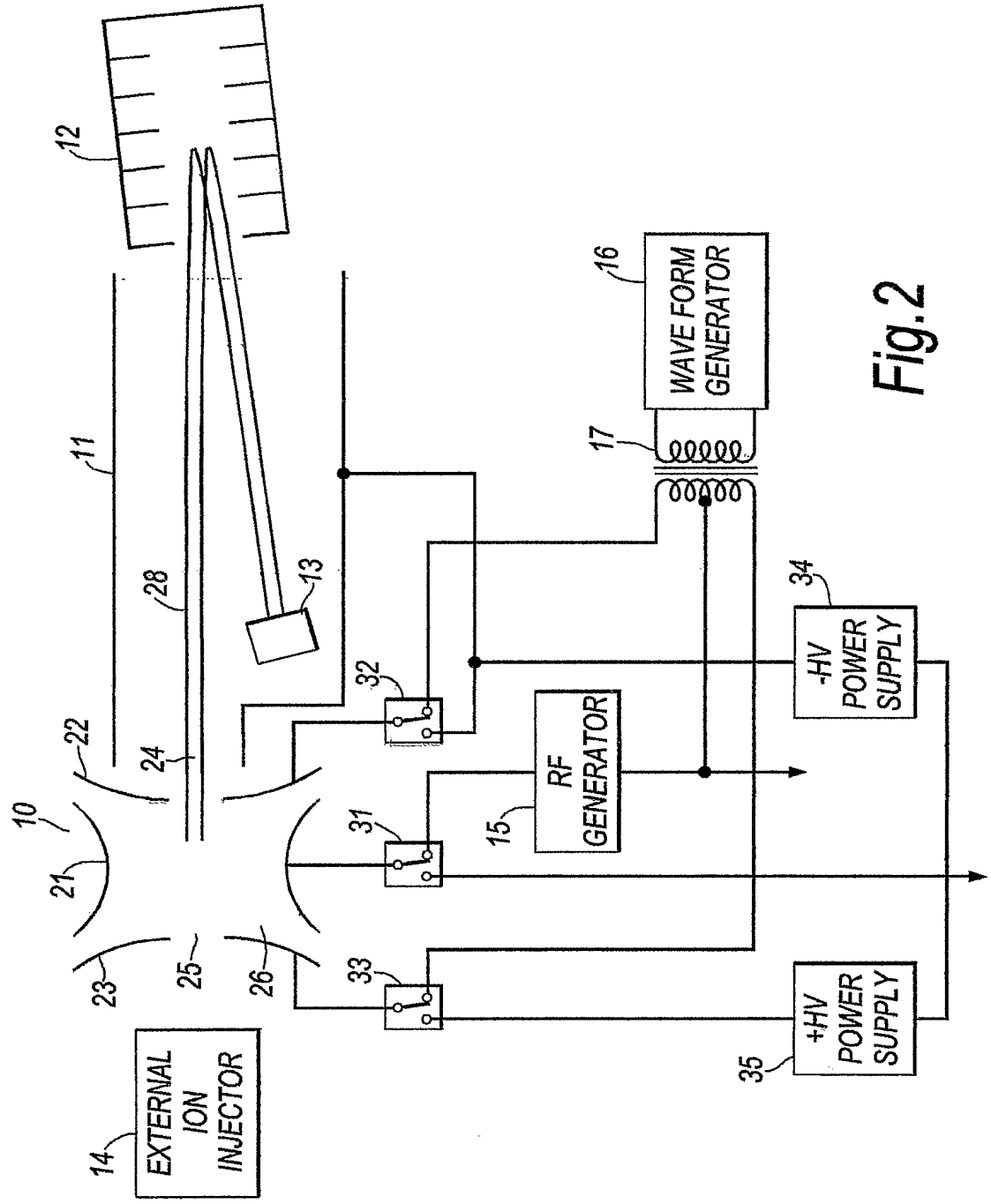

12
11
28
13
16
WAVE FORM GENERATOR
17
34
-HV POWER SUPPLY
32
22
24
10
21
31
RF GENERATOR
15
23
25
26
33
+HV POWER SUPPLY
35
14
EXTERNAL ION INJECTOR

Fig.2

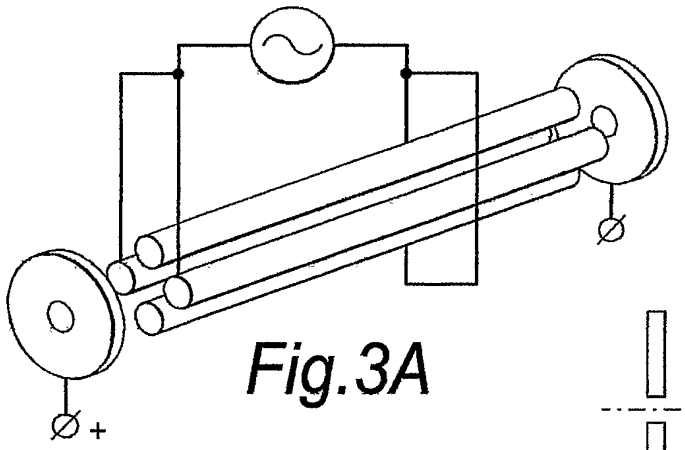


Fig.3A

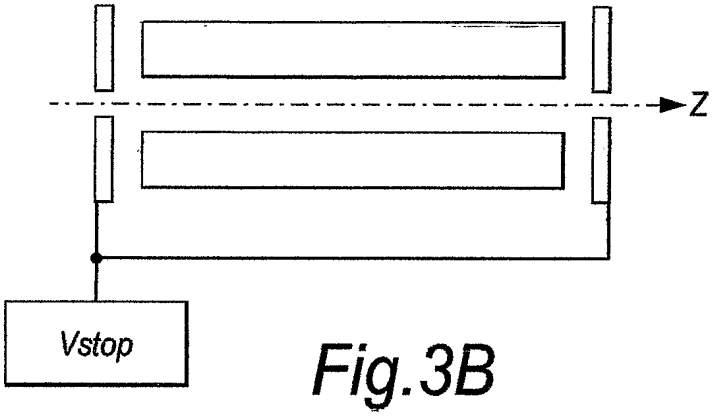


Fig.3B

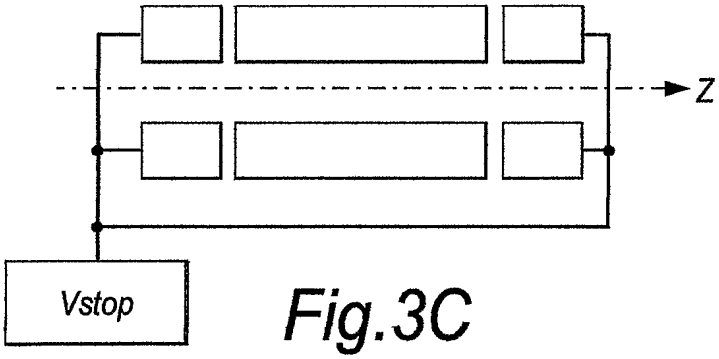


Fig.3C

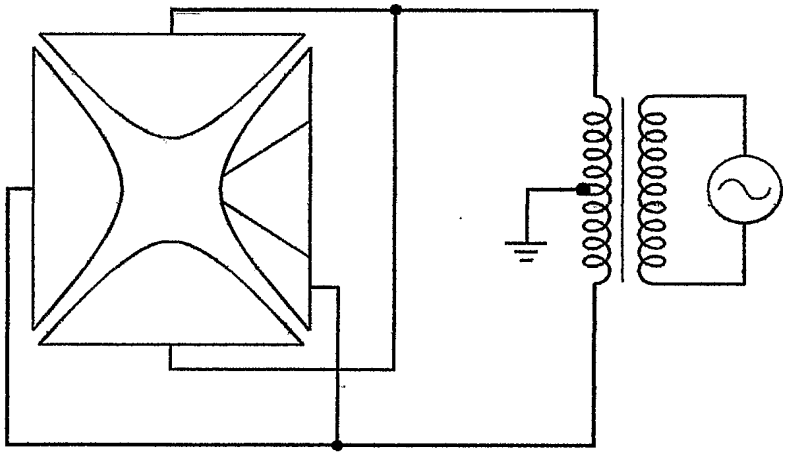


Fig.3D

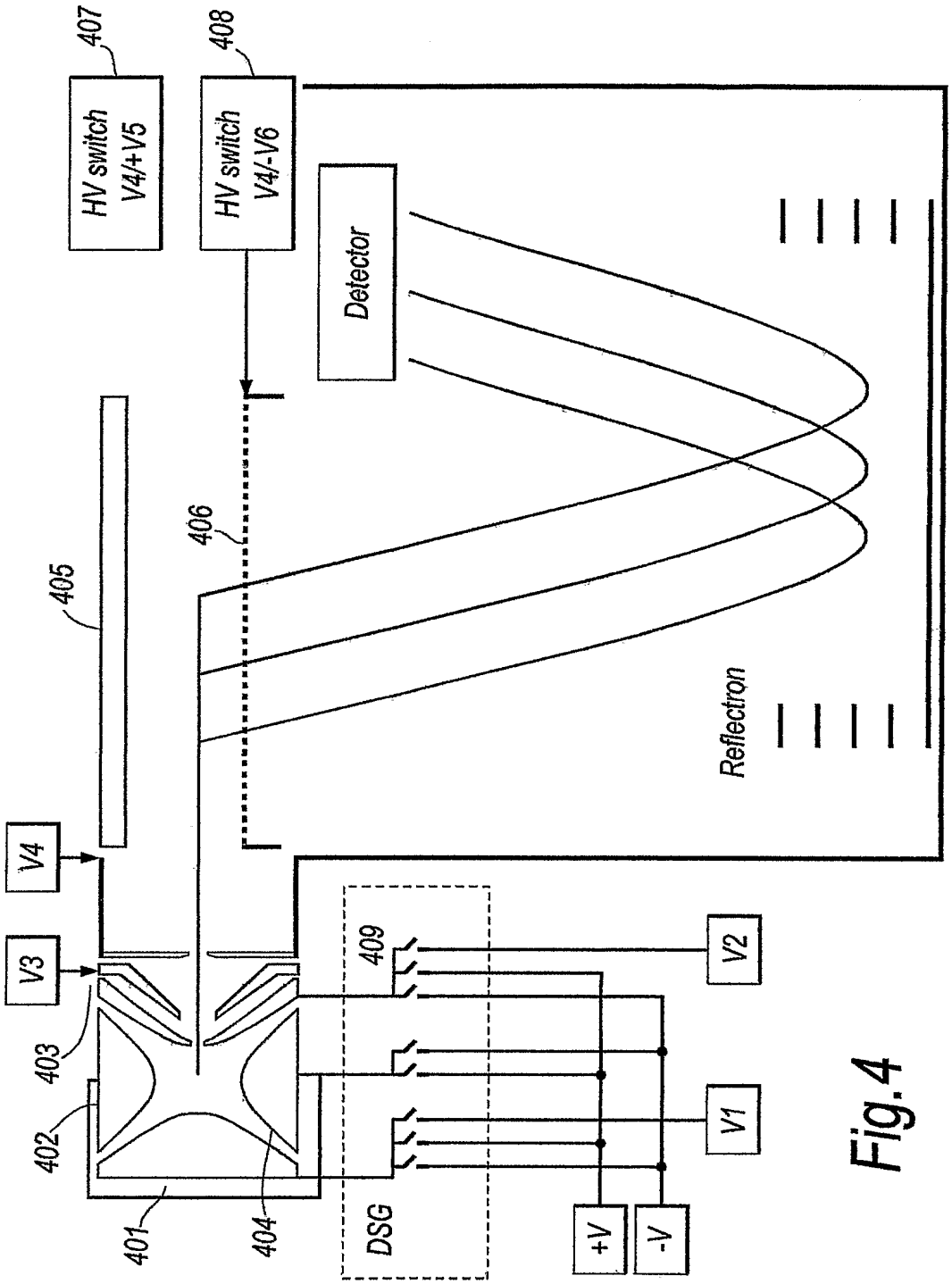

407
HV switch V4/+V5
408
HV switch V4/-V6
Detector
406
405
Reflectron
V4
V3
403
402
401
404
409
DSG
V2
V1
+V
-V

Fig.4

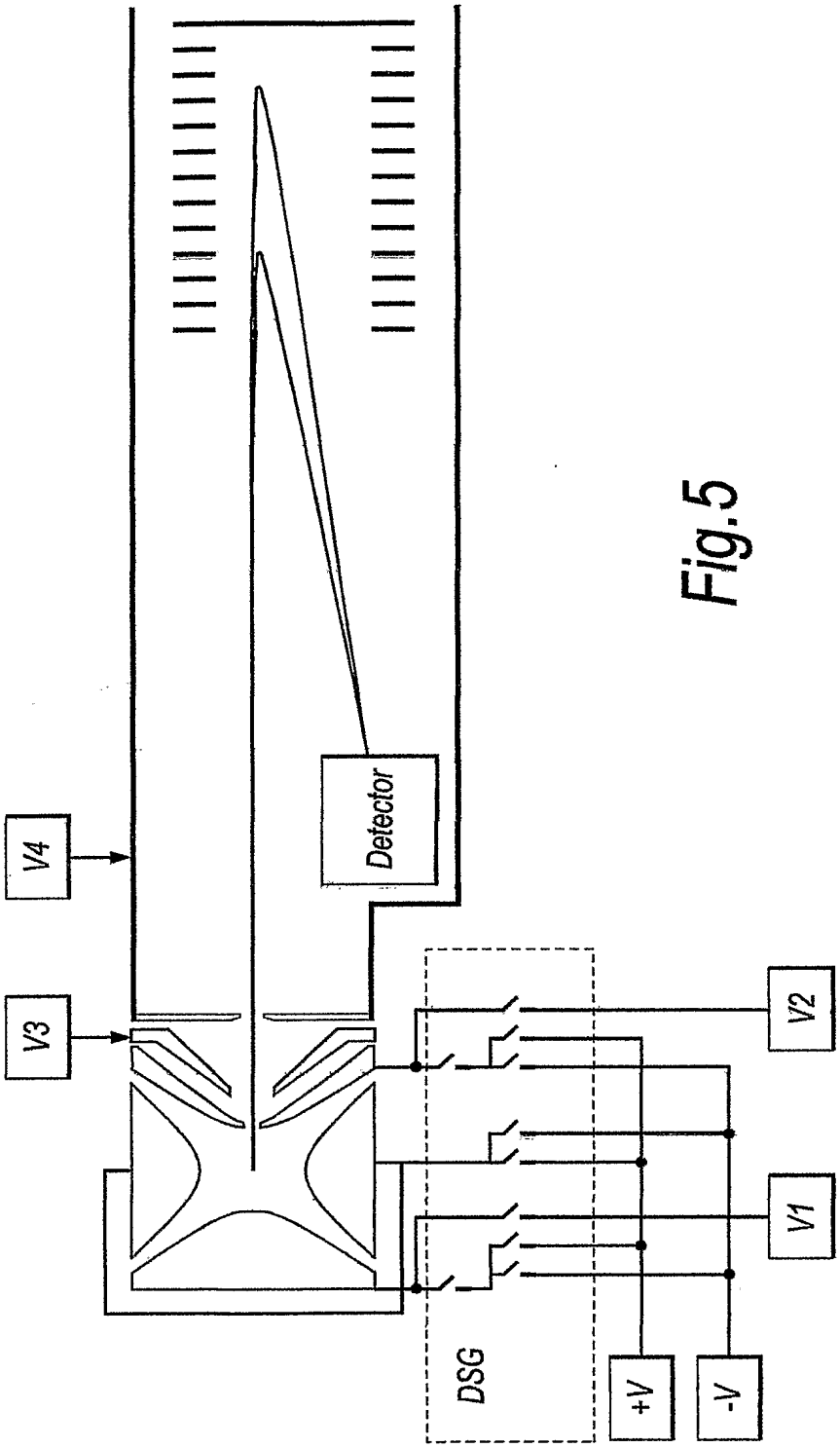


Fig.5

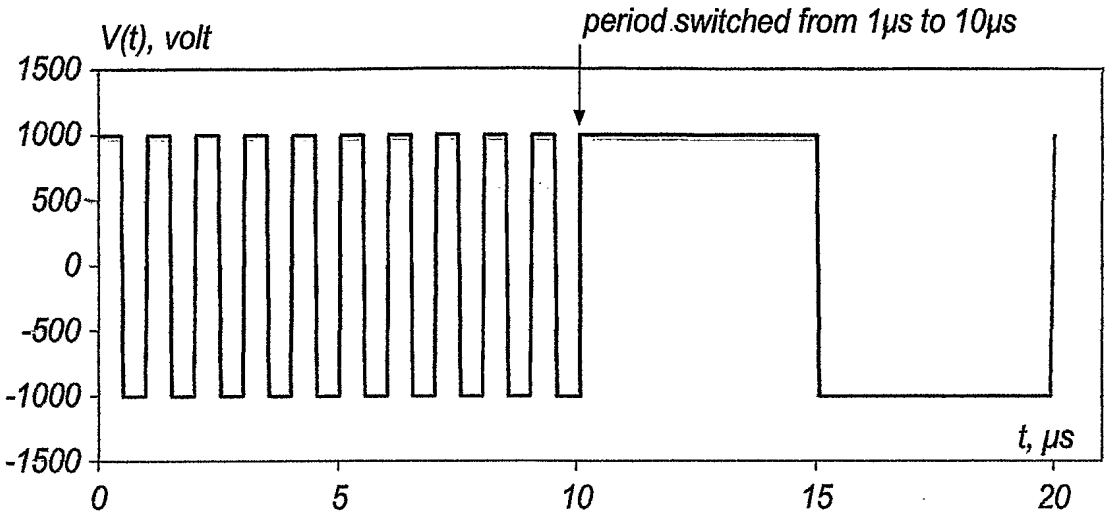


Fig.6

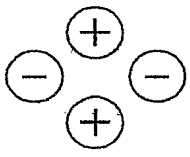
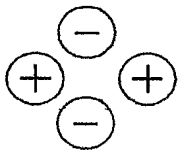
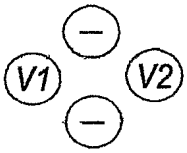
	"trap +"	"trap -"	"eject"
			
Y electrodes	+V	-V	-V
X left	-V	+V	+V1
X right	-V	+V	+V2

Fig.7

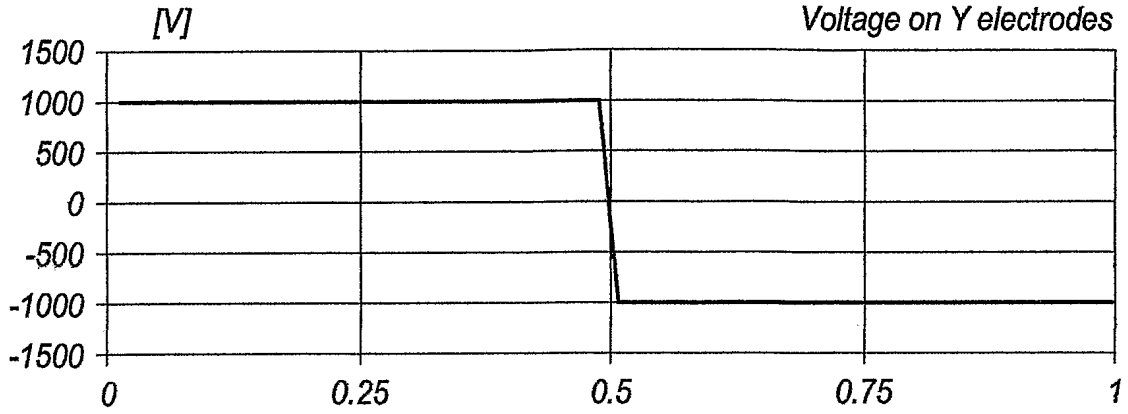


Fig.8A

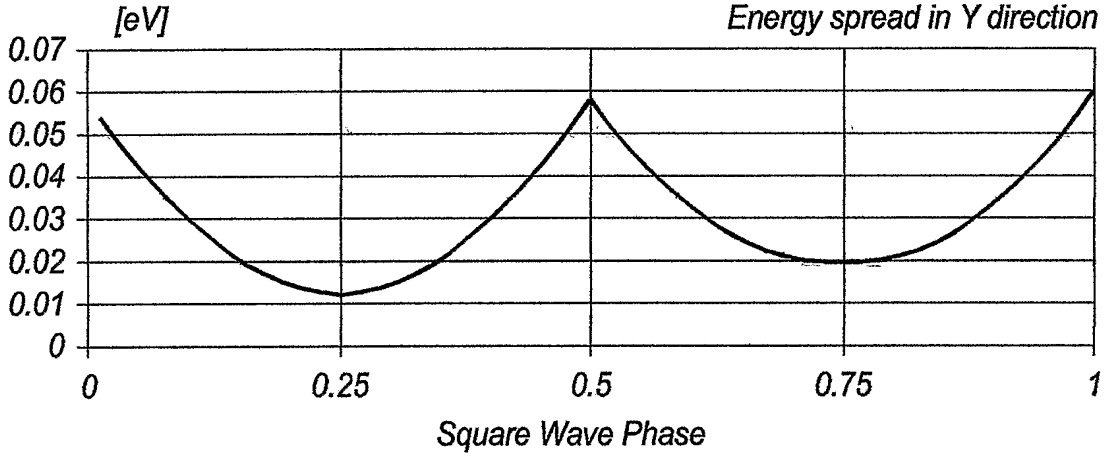


Fig.8B

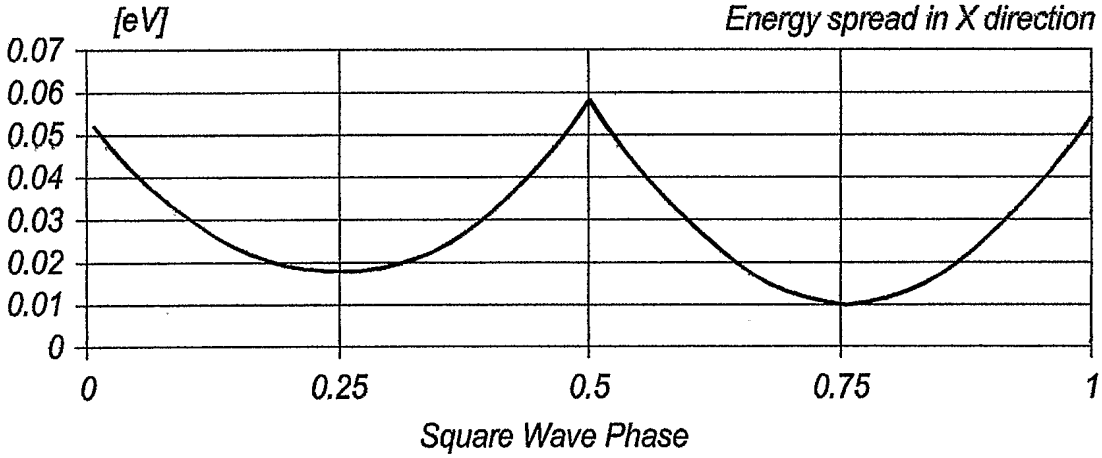


Fig.8C

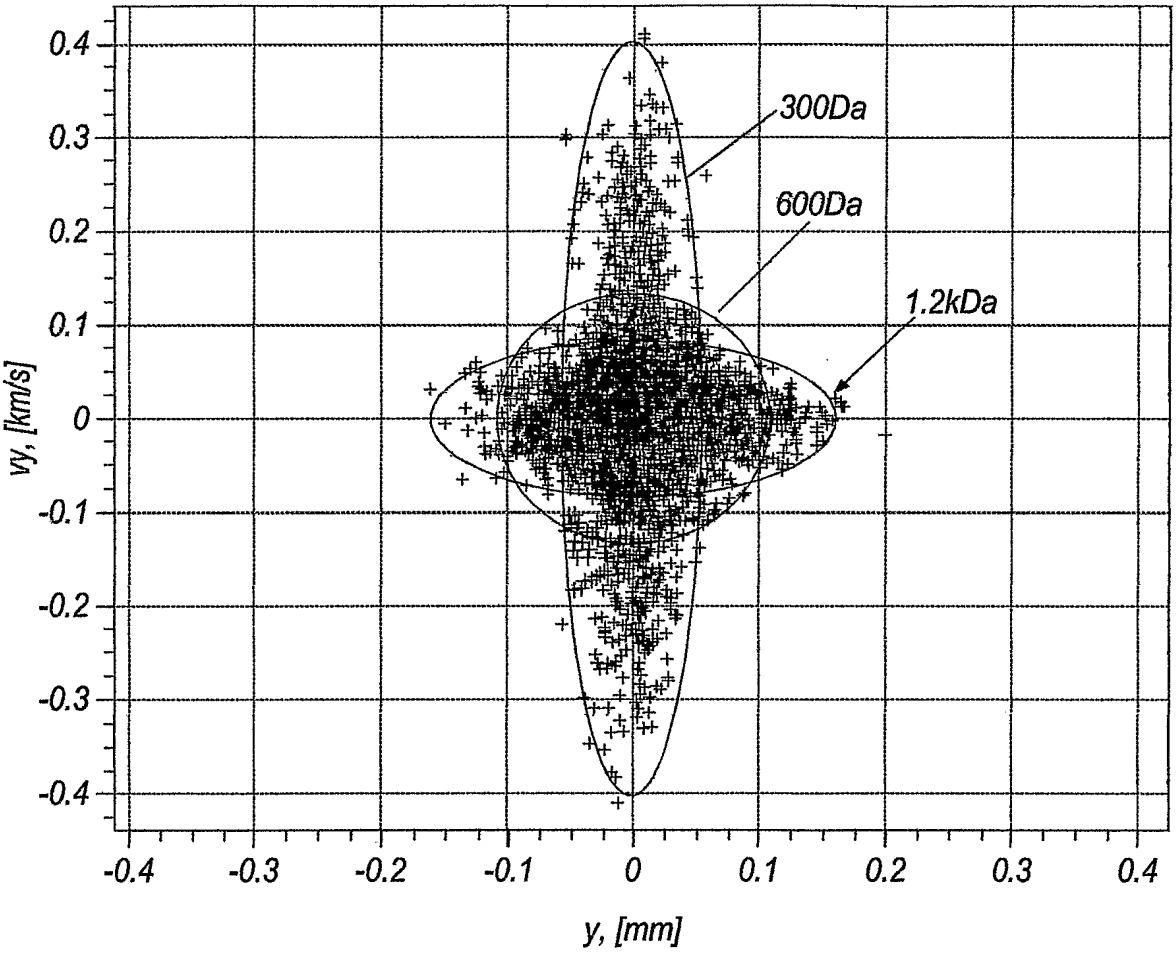

0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
vy, [km/s]
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
y, [mm]
300Da
600Da
1.2kDa

Fig.9

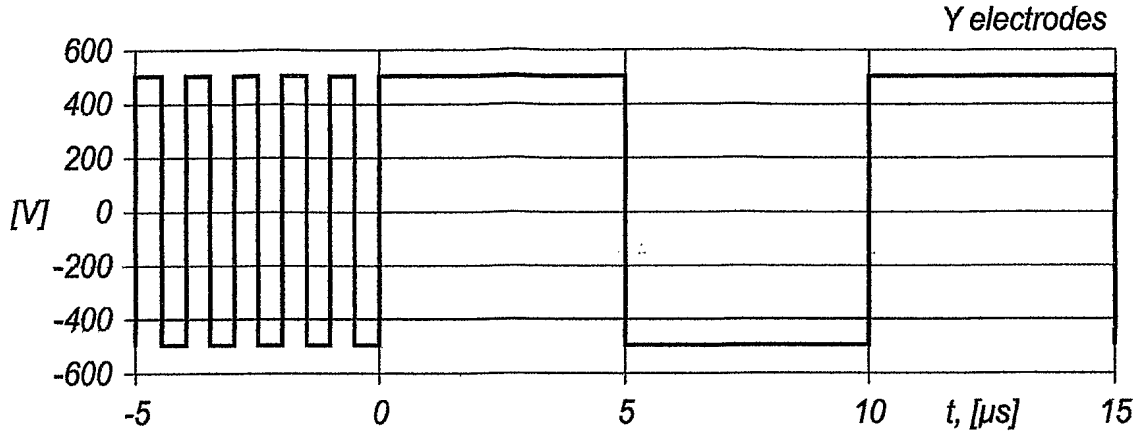


Fig.10A

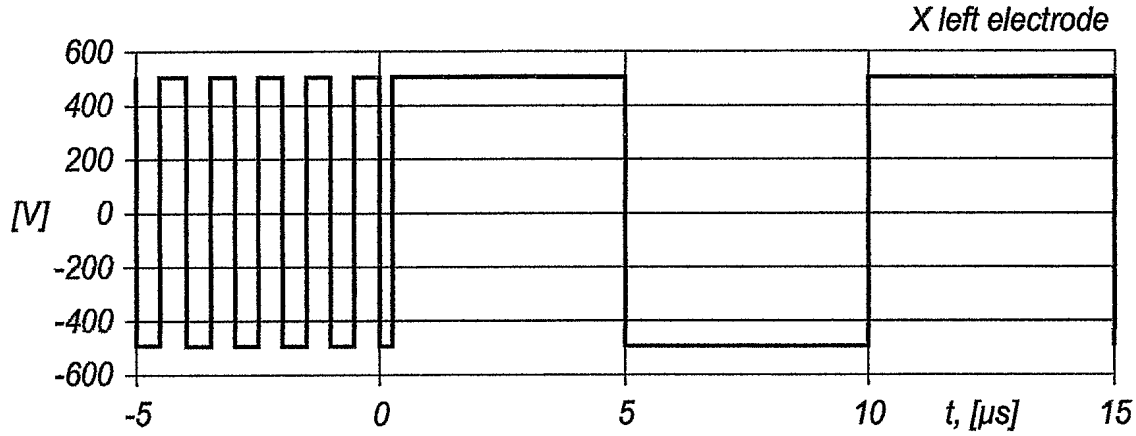


Fig.10B

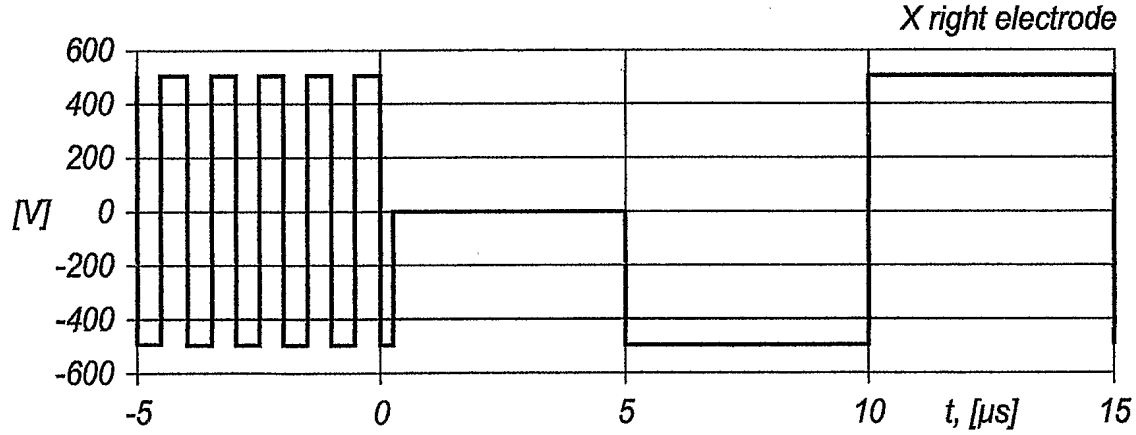


Fig.10c

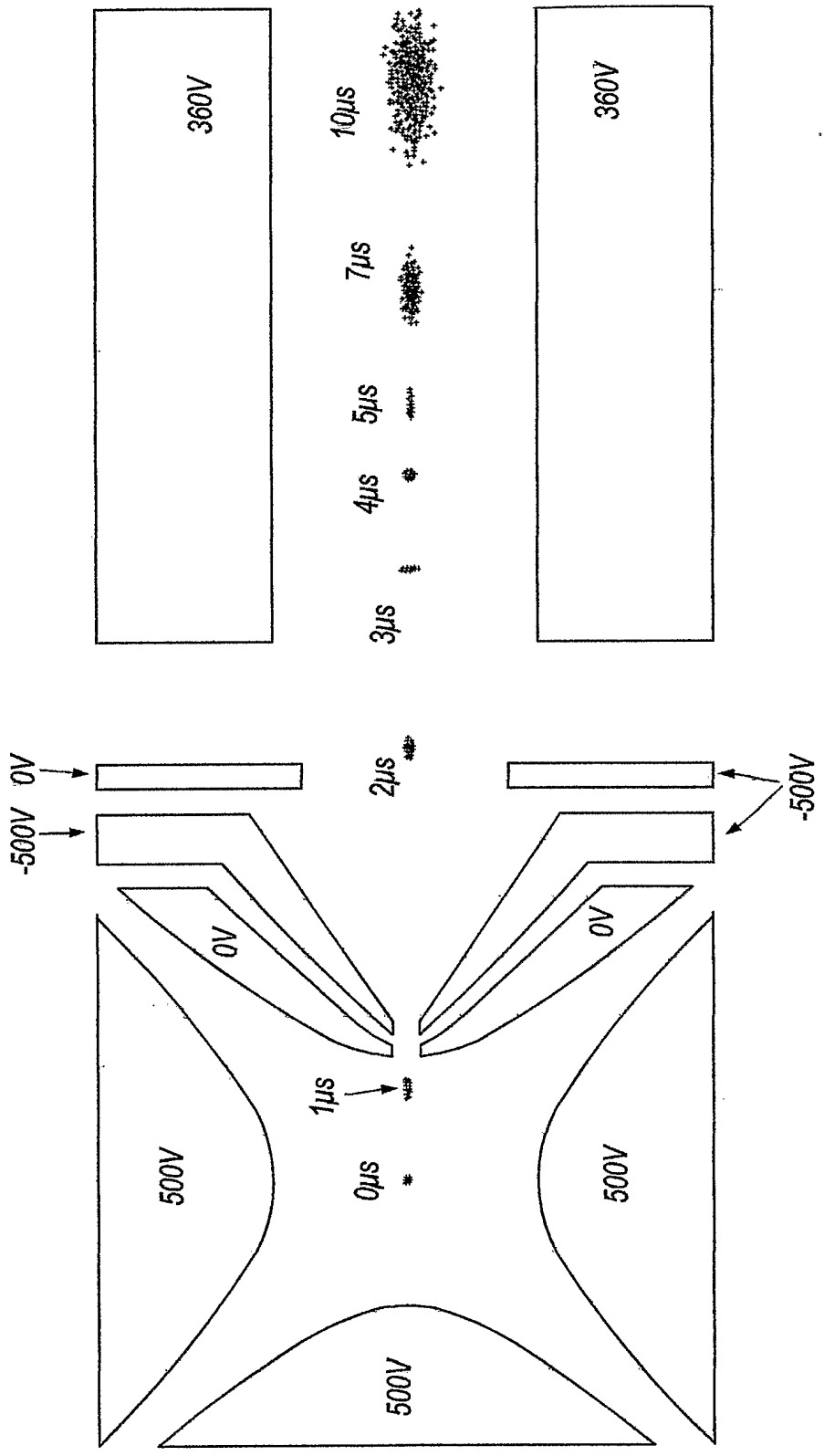

360V
360V
10µs
7µs
5µs
4µs
3µs
2µs
1µs
0µs
0V
-500V
0V
-500V
0V
0V
500V
500V
500V

Fig.11

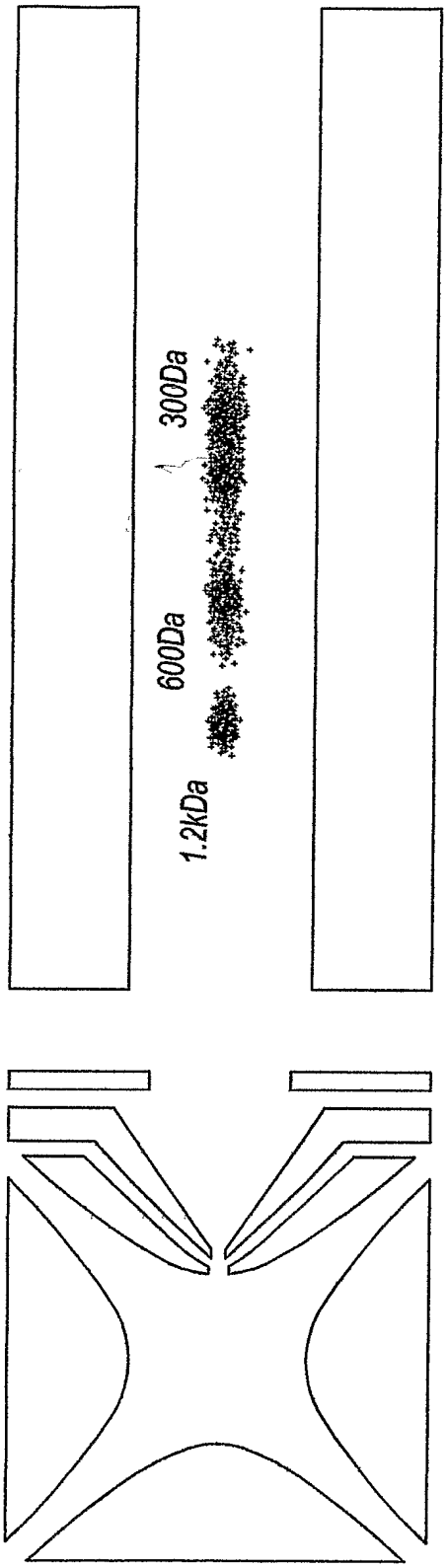

300Da
600Da
1.2kDa

Fig.12

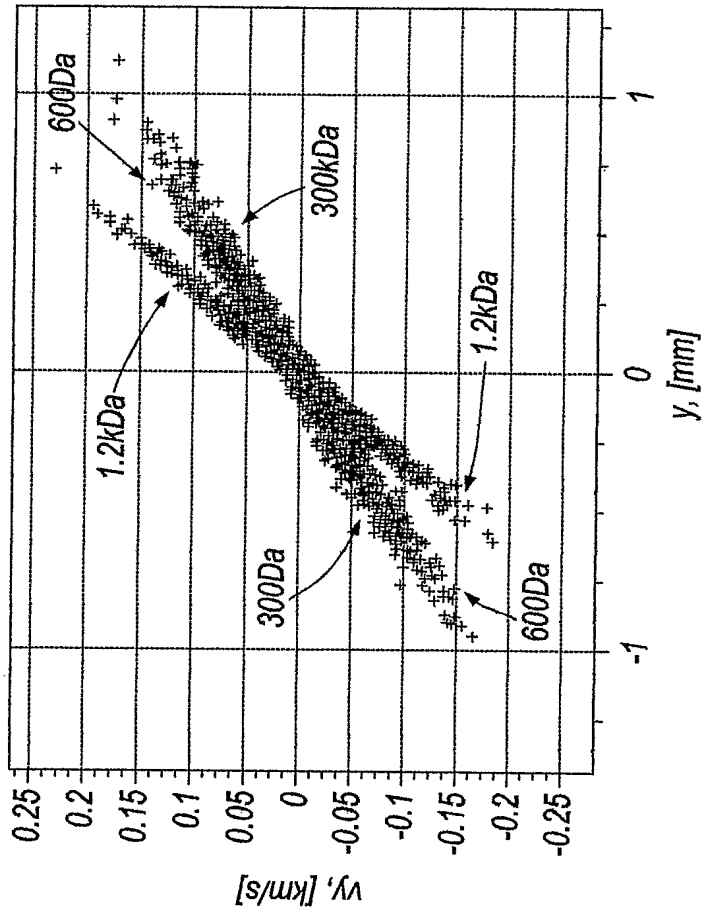

600Da
300kDa
1.2kDa
1.2kDa
300Da
600Da
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
vy, [km/s]
1
0
-1
y, [mm]

Fig.13

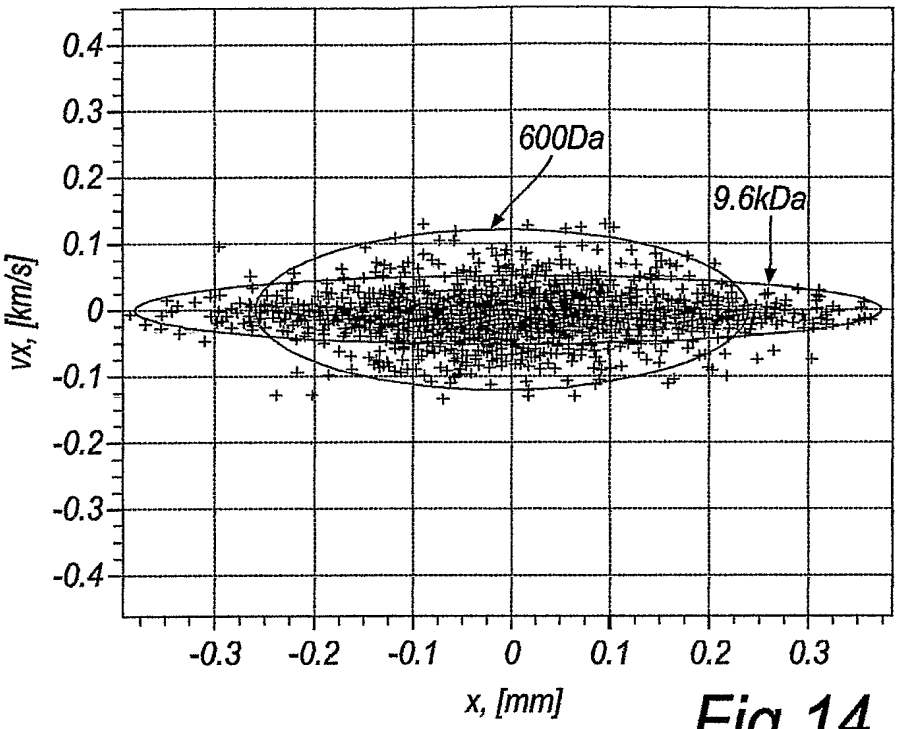

600Da
9.6kDa
vx, [km/s]
x, [mm]
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3

Fig.14

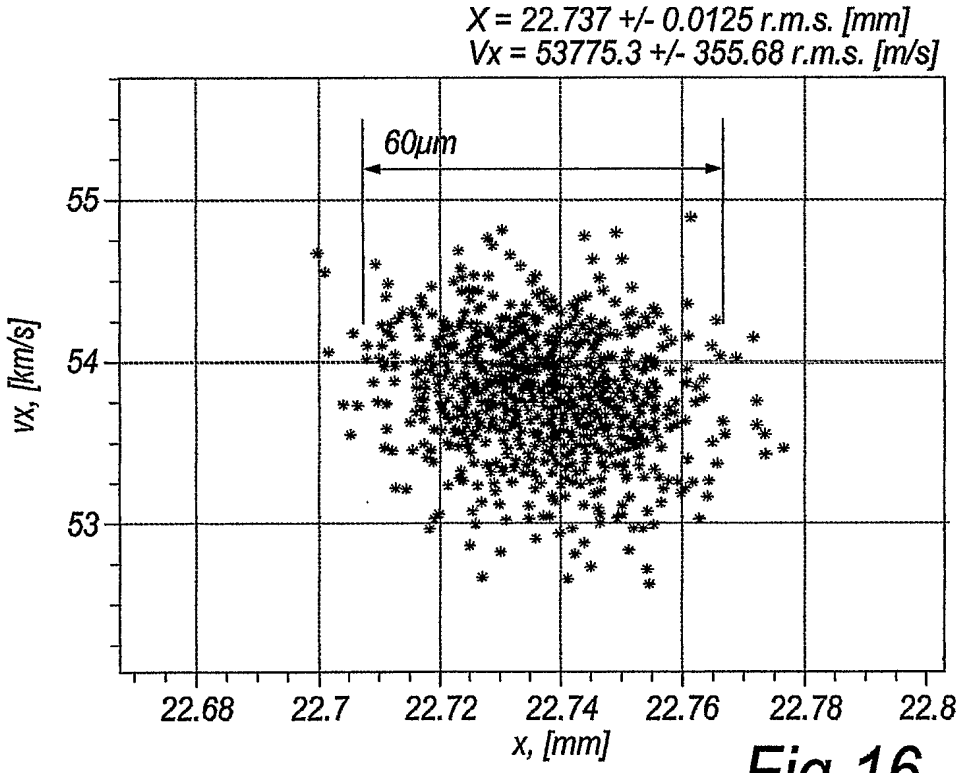

X = 22.737 +/- 0.0125 r.m.s. [mm]
Vx = 53775.3 +/- 355.68 r.m.s. [m/s]
60µm
vx, [km/s]
x, [mm]
55
54
53
22.68
22.7
22.72
22.74
22.76
22.78
22.8

Fig.16

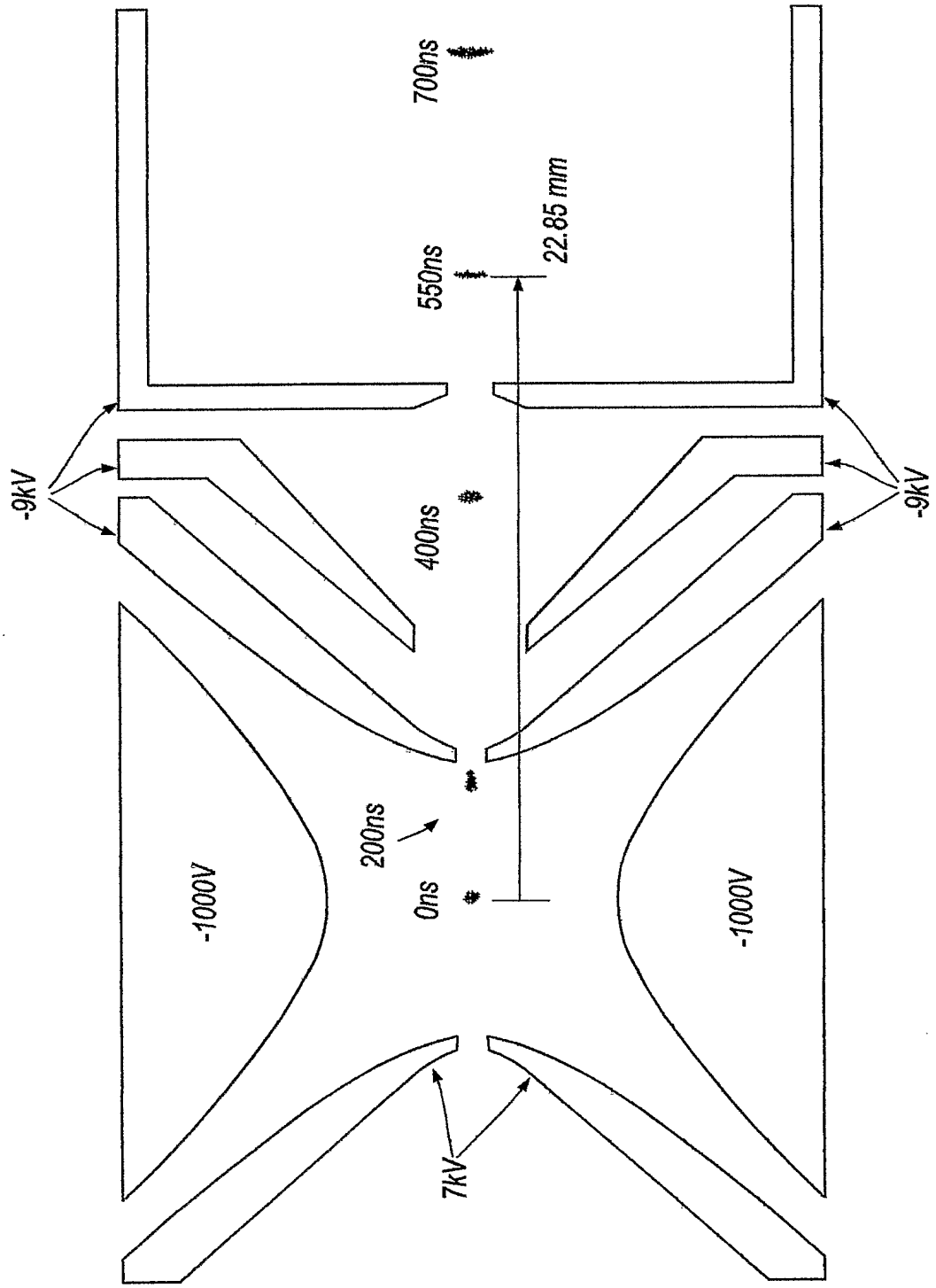


Fig.15

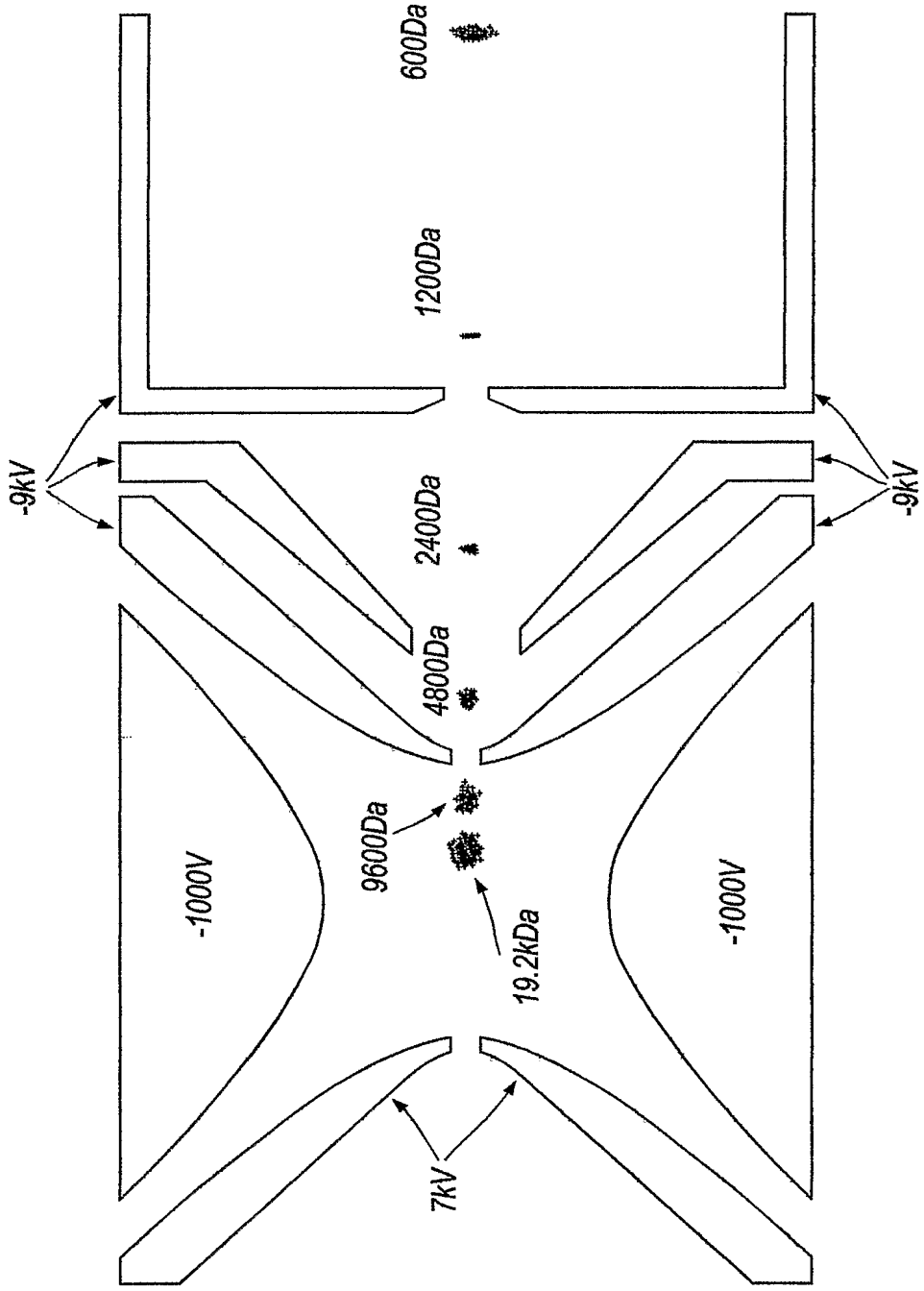

600Da
1200Da
-9kV
-9kV
2400Da
4800Da
9600Da
19.2kDa
-1000V
-1000V
7kV

Fig.17

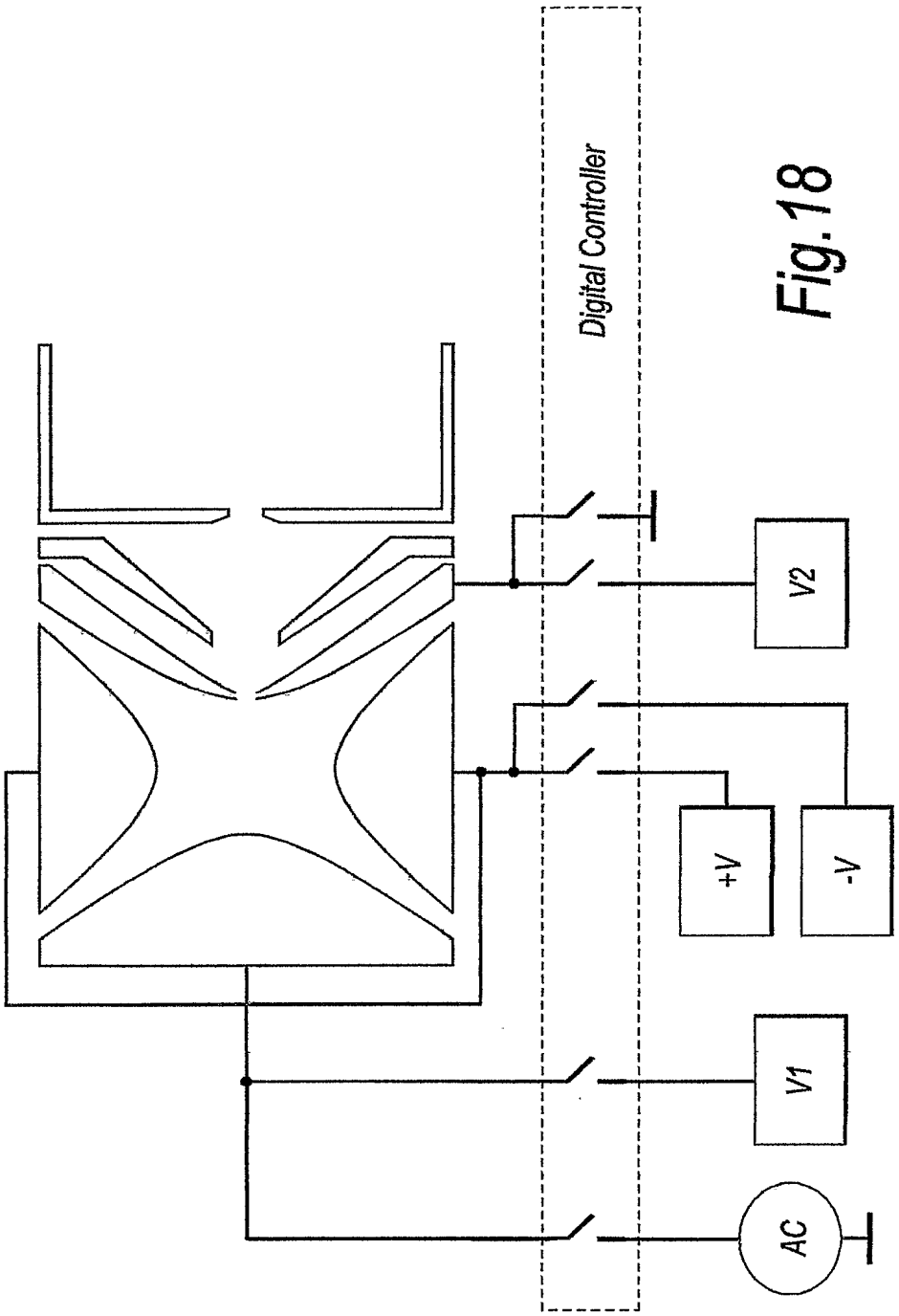


Fig.18